# THE SOCIETY OF ACTUARIES IN IRELAND

## Correction to November 2009 Newsletter (attached)

### Results of the Society of Actuaries in Ireland Insured Life Mortality Study

We regret that there are some errors in the tables shown in the above Newsletter report. We apologise for any inconvenience this may have caused. The following information replaces that shown in the report.

The total number of deaths recorded in the mortality study was 2,049, split as follows:

| | 2006 | 2007 | Total |
|---|---|---|---|
| **DTA** | 562 | 537 | **1,099** |
| **LTA** | 465 | 485 | **950** |

| | DTA | LTA |
|---|---|---|
| Male Smoker | 264 | 193 |
| Male Non-Smoker | 484 | 445 |
| Female Smoker | 115 | 106 |
| Female Non-Smoker | 236 | 206 |
| **Total** | **1,099** | **950** |

**ACTUAL/EXPECTED DEATHS:**

**ALL DURATIONS:**

| | **DTA** | | **LTA** | |
|---|---|---|---|---|
| | **2006** | **2007** | **2006** | **2007** |
| **Lives:** | | | | |
| Male Smoker | 73% | 65% | 82% | 66% |
| Male Non-Smoker | 74% | 64% | 65% | 76% |
| Female Smoker | 60% | 58% | 80% | 76% |
| Female Non-Smoker | 70% | 57% | 80% | 54% |
| **Amounts:** | | | | |
| Male Smoker | 64% | 61% | 62% | 50% |
| Male Non-Smoker | 66% | 55% | 64% | 77% |
| Female Smoker | 63% | 52% | 50% | 63% |
| Female Non-Smoker | 59% | 57% | 65% | 47% |

| | **DURATIONS 0-4 YEARS:** | | | | **DURATIONS 5+ YEARS:** | | | |
|---|---|---|---|---|---|---|---|---|
| | **DTA** | | **LTA** | | **DTA** | | **LTA** | |
| | **2006** | **2007** | **2006** | **2007** | **2006** | **2007** | **2006** | **2007** |
| **Lives:** | | | | | | | | |
| Male Smoker | 66% | 56% | 94% | 56% | 79% | 71% | 74% | 74% |
| Male Non-Smoker | 58% | 52% | 64% | 58% | 87% | 75% | 65% | 89% |
| Female Smoker | 63% | 54% | 58% | 63% | 57% | 60% | 92% | 82% |
| Female Non-Smoker | 59% | 49% | 63% | 50% | 79% | 64% | 92% | 57% |
| **Amounts:** | | | | | | | | |
| Male Smoker | 55% | 57% | 58% | 43% | 80% | 69% | 68% | 59% |
| Male Non-Smoker | 50% | 43% | 77% | 45% | 93% | 74% | 47% | 119% |
| Female Smoker | 72% | 48% | 43% | 64% | 48% | 57% | 57% | 63% |
| Female Non-Smoker | 49% | 45% | 49% | 44% | 75% | 77% | 86% | 53% |

Newsletter
November 2009
The Society of Actuaries in Ireland

# How Risky Does The Public Think Their Investments Are?

There was an evening meeting of the Society on 20th April in the Alexander Hotel where John Caslin and Damian Fadden presented a paper on "How Risky Does The Public Think Their Investments Are?"

This presentation followed on from a paper issued by John and Damian in November 2007 entitled "How risky is my investment" and a paper by Kevin Murphy in May 2005 entitled "It's the outcome stupid". Kevin's 2005 paper recommended that we build a set of actuarial investment tables which will help us to estimate the range of outcomes and build the skill and experience in interpreting these outcomes to determine the most appropriate investment strategy for our clients. John and Damian's 2007 paper, among other things, built a set of tables, using the bootstrap re-sampling technique which could help potential investment product consumers to better understand the risk profile of investments.

The bootstrap re-sampling technique works as follows: to build a return for a month, a computer programme would randomly select an actual return for one trading day from among the more than 2,500 days of actual daily returns (net of fund management fees) in the sample of daily returns for the period from 1st October 1996 to 21st November 2007 and record that daily return. Having replaced that randomly selected daily return in the sample of over 2,500 actual daily returns, the computer would then randomly select a second daily return from the sample and record that daily return. This selection process would then be repeated 21 times to build up return figures for a single month. Then 250,000 such months would be created and the results summarised and tabulated.

Following these papers, a survey sponsored by the Society was carried out to assess how risky the public think their investments are and to see if the investment tables built improve the public's understanding of risk and return. The survey was carried out by Millward Brown as part of an omnibus survey (where participants were surveyed on other topics also). This prevented "willing participant" bias as well as keeping the costs down.
The 1,006 participants were well spread by gender, age group, social classification and working status. They were asked questions in the following areas:

- Investment experience
- Awareness of available investment types
- Rank investments by return
- Rank investments by risk
- Experience of financial advice
- Reliability of financial advice
- Awareness of Financial Regulator

The survey was carried out in October 2008, when markets were volatile and receiving ample media attention. The full results can be found on the Society's website but some of the more interesting results presented on the night were as follows:

- 27% of participants said the bank was their main source of past investment advice, which ranked far ahead of second place.
- When asked how informative previous investment advice was, 79% said the returns information they received was either very informative or informative and 72% said the risk information they received was either very informative or informative.

Participants who had investments were then asked to rank various investments by risk and return. Before ranking by risk and return, some of the participants were provided with the card shown overleaf whereas others did not receive the card.

This card seems to show concisely all of the information I would like to know if I were asked to rank the return and risk of various investment types. If I were an actuarial student struggling the night before an exam to understand risk and return this is exactly the type of card I would like to have to help me understand the topic. Alas, the results of the survey showed that the card didn't appear to influence how the public ranked risk and return with the results broadly the same for groups with and without the card. The participants ranked risk broadly in line with the results on the card but ranked return opposite to the returns shown on the card.

*continued...*

## Contents

# How Risky Does The Public Think Their Investments Are? *continued...*

The tables used in the survey were originally based on a data set up to 21st November 2007. For example, the Irish Equity Fund table was built using all the daily returns of the Irish Equity Fund from the time it first started daily unit pricing, 1st October 1996 up to 21st November 2007, the date on which the analysis was performed.

| | 1 in a 100 chance of less than | 1 in 20 chance of returns less than | 1 in 4 chance of returns less than | average return | 1 in 4 chance of returns greater than | 1 in 20 chance of returns greater than | 1 in a 100 chance of returns greater than |
|---|---|---|---|---|---|---|---|
| Fixed Income Fund | **-4.6%** | **-1.4%** | **3.2%** | **6.6%** | **10.0%** | **15.0%** | **18.8%** |
| Mixed Fund | **-15.0%** | **-8.5%** | **1.4%** | **9.4%** | **16.8%** | **29.3%** | **38.8%** |
| Currency Fund | **-23.5%** | **-14.3%** | **0.3%** | **13.2%** | **24.5%** | **45.5%** | **62.2%** |
| Shares (Irish Equity Fund) | **-25.6%** | **-16.2%** | **-0.8%** | **12.9%** | **25.0%** | **47.4%** | **65.5%** |

John and Damian highlighted how these tables would have changed taking into account data up to 29th March 2009. The results showed that the risk and return profile of the fixed income and currency fund were very stable whereas this was not the case for the Irish Equity Fund and Managed Funds.

## Irish Equity Fund

| | 1% of returns less than | 5% of returns less than | 25% of returns less than | mean return | 25% of returns greater than | 5% of returns greater than | 1% of returns greater than |
|---|---|---|---|---|---|---|---|
| Five Calendar Year Annualised | **-6.9%** | **-1.9%** | **5.7%** | **12.9%** | **17.2%** | **26.2%** | **33.0%** |
| Five Calendar Year Annualised UPDATED | **-22.4%** | **-16.7%** | **-8.1%** | **0.6%** | **5.0%** | **15.6%** | **23.6%** |

Update shows lack of stability in the results over time.

**Original Data Set: Daily returns from 1st October 1996 to 21st November 2007.**
**Revised Data Set: Daily returns from 1st October 1996 to 29th March 2009.**

Over the past year I have, on occasion, heard investment managers talking about return and risk, starting by saying "if we ignore 2008". The bootstrapping re-sampling technique doesn't have such a selective memory and when it took account of the new data up to 29th March 2009 (and very unpleasant data it was!), the range of outcomes shifted to show a broader range distributed around a much lower mean. The table below shows the five calendar years annualised returns whereas the card given to participants in the survey was based on a one calendar year return.

Following the presentation there was a lot of audience participation, particularly around how best to communicate risk and return concepts to the public. Many suggested ways in which the school system could be improved and possibly focus on understanding and interpreting statistics as opposed to calculating them. Having a simple risk measurement system (e.g. traffic light system) standardised across all companies may aid understanding but oversimplification could lead to questionable decisions being made by members, for example, if younger defined contribution members chose not to invest in equities because they were ranked red on the simple traffic light system. Following the discussion, John and Damian thanked all of those who helped with such a thorough survey and the President Philip Shier brought the meeting to a close by saying that the Society now needs to consider how to bring this project forward.

Full details of the report will be available shortly and I'm sure it will be well worth a read for all of those interested in this important topic.

Finbarr Kiely

# Some Thoughts on Risk and Regulation

On 27th April, Jimmy Joyce presented his paper, 'Some Thoughts on Risk and Regulation', to members of the Society. Philip Shier opened the meeting by giving a brief outline of Jimmy's career and many achievements.

The recent financial crisis took many experienced and knowledgeable people by surprise, so much so that some commentators referred to the "Death of Expertise." Given all that has happened and Jimmy's previous experience working with the regulator, his views on risk and regulation are both noteworthy and timely. Jimmy explained that he now felt sufficiently removed from his former role to speak openly on the subject.

The talk discussed the recent events under the headings of:

- Evolutionary Background
- Financial Services - Special Features
- Political & Institutional Framework
- Limits & Risk Regulation
- Regulation - Public Comment & Transparency

Within this context Jimmy considered the questions of: what regulation was attempting to achieve; the appropriate level of regulation; and what people can expect from regulators.

Looking back over the last 400 years, Jimmy identified that a banking crisis (of varying severity) had occurred somewhere in the world on average once every seven years ("A Seven Year Itch"). It was, however, readily acknowledged that the events of 2008 were towards the more severe end of this spectrum. One of the key differences of the recent crisis was Debt Securitisation, which had been promoted and modelled as a form of risk diversification, a diversification that quite often didn't materialise.

Under a slide titled "A Prison of the Past", Jimmy spoke about some of the psychological and behavioural aspects of risk and regulation. He discussed how, typically, the problems that management and regulation are working to prevent are informed by past events. If a problem hasn't arisen in the past, it's difficult to envisage how it could manifest itself in the future. As an example Jimmy told us how, following an earthquake, there is often an uptake in earthquake insurance even though the risk of re-occurrence would normally be lower. Other features mentioned were the dangers associated with dominant leaders and people's ability to rationalise particular (adverse) outturns in retrospect.

In considering a Governance Framework, Jimmy spoke about how the underlying political philosophy defines what is in the best interests of the population and this will determine government policy. This in turn will influence the institutional structures and conduct, the role of personal and professional standards and the shape of regulation overall.

Jimmy pointed to the importance and value of high personal ethics and professional standards in the world of regulation particularly where rules can struggle to keep apace with market innovation. In this respect, Jimmy was of the opinion that, whatever the structure or configuration of the regulatory body, proper regulation will always hinge on having people of quality and experience in both regulatory and business positions.

We heard about the unenviable position of the regulator who, functioning normally, should not come to the attention of the general public. When things go wrong, however, the same regulator can look forward to an uncomfortable period in the spotlight, or as Samuel Johnson may have put it "...to be disgraced by miscarriage, or punished for neglect, where success would have been without applause and diligence without reward".

In a reference to public comments by regulators at home and abroad, Jimmy compared the plight of a bank which needs a public declaration of solvency from the regulator to that of an embattled soccer manager described by his chairman as having "the full support of the board".

As to what regulation is trying to achieve, there are many possible objectives which can range from macro stability, solvency supervision to consumer protection along with market issues such as competition and innovation. Equally there are different approaches to the application of regulation. Both the objectives and the approach will have a bearing on how onerous and costly regulation will be.

Jimmy stated that, in his view, the costs should be proportionate to the aim and that regulation should be value-adding leading to financial and market stability. The level of regulation, however, is a decision for society in general. Jimmy set out his position as an advocate of light touch regulation, believing that an overly burdensome regulatory environment stymies commercial drive and innovation amongst financial services organisations. In this regard, a "business-friendly" regulatory regime would be his preference and indeed, much of the success of the IFSC model can be attributed to this factor. During his time working with the regulator, he always sought to, within reason, maintain good relations with the regulated entities. He pointed to the need for trust between regulators and firms and the benefits of a principles-based regulatory regime. Jimmy contrasted this approach with the more adversarial, rules-based approach often adopted by US regulatory agencies. An example given here was the SEC in the US and their inability to uncover the Madoff fraud.

Looking at the regulator itself, the normal human reactions of self-preservation are an influence on decision-making coupled with the belief that the regulatory system had been under-resourced in the past. In a topical point on the increasing reliance on models, Jimmy referred to the requirement of companies to demonstrate the "use" test. Interestingly, he felt that the more important test is the "don't use" test by which he meant that models should never be blindly followed or accepted but must always be challenged by experienced thinking.

Summing up, Jimmy concluded that the regulatory system must be fit for purpose and not work to discourage innovation and business growth, all the more so in the current recessionary climate as we need all the entrepreneurs we can get!

An interesting and open question session followed with comments and questions from a wide range of the audience including Society members, the regulator and Jimmy's own family.

James Mulrooney

# The Irish Economy: Charting the Course to

On Thursday 14th May 2009, Eamonn Hughes of Goodbody Stockbrokers gave a presentation to the Society of Actuaries in Ireland entitled "The Irish Economy: Charting the course to Irish economic and financial stability".

This presentation was based on a proposal which was jointly written by three of Ireland's largest stockbrokers. Eamonn explained that the coming together of these three competitors represented their shared view that social and political cohesion is necessary if Ireland is to navigate its way out of the current economic crisis.
The presentation began with a brief overview of the general Irish economic environment, before Eamonn broke down the challenges involved in addressing our national difficulties into four distinct areas: the public finances, competitiveness and the economy, sovereign debt markets and the banking system.

## General Environment

Eamonn started by explaining that a budget deficit of 10% of GDP is forecast to emerge in 2009, which is significantly down from a surplus in 2007. Over the years tax revenue became dependent on the property market and while income remained buoyant, public spending spiralled due to its inherent affordability. Furthermore, competitiveness noticeably slipped during these boom years due to a cost-push effect on prices.

The investment in and the over-reliance on the construction sector has markedly increased the level of Irish household debt. This debt grew steadily up to 2008 with the ratio of household debt to disposable income increasing by 267% between 1995 and last year. In addition, increased borrowing from abroad to fund the construction industry has resulted in a leap in the loan to deposit ratio for Irish residents from 135% in December 1999 to over 230% in September 2008.

There has been a dramatic rise in the live register due to the deterioration in the Irish economy. The year on year percentage rise between March 2008 and March 2009 was almost 90% with the unemployment rate expected to rise to 15%-16% by the end of 2009.

This year we will see the largest fall in consumer prices since 1933 and consumers are in retrachment mode due to increasing unemployment and future economic uncertainty. As a result, domestic savings are also on the rise as the country starts to rebalance.

## The Public Finances

Eamonn explained that the current account balance is to blame for the GDP deficit with this year's current voted expenditure as a percentage of national income heading towards record levels. Tax revenue has collapsed, the dependence on the property "bubble" is partly to blame for this. In 2006, housing related taxes (CGT, Stamp duty & VAT) totalled 16% of the entire tax intake whereas they are projected to only account for 2% in 2009. Consequently, tax revenue dropped to 26% GNP last year, the lowest on record back to 1980.

The tax base needs to be broadened and revenue needs to be re-balanced so it becomes less sensitive to asset booms and busts with income tax accounting for a greater share of the total tax take over time.

Current expenditure also needs to be re-examined; it must bear the brunt of the fiscal adjustment and must revert back to 2005 levels. Eamonn thought that social welfare rates should be reviewed in the context of deflation in consumer prices and also a major overhaul of the public sector pay bill was needed to mirror cuts witnessed in the private sector. However, the government should aim to maintain as high a level of capital spending as possible, to stimulate employment, increase the capital stock and hence the productive potential of our economy.

## Irish Sovereign debt market

Eamonn pointed out that in March, Irish sovereign debt lost the top AAA rating as public finances deteriorated and this was coupled with a sharp widening in Irish sovereign debt spreads. Credit default swaps on Ireland's five-year sovereign debt soared and, at their peak, readings were near 400 basis points with a cumulative probability of default of over 30%. The concerns were due to the deteriorating public finances and the scale of the government's contingent liabilities.

Conversely, Eamonn was of the opinion that the concerns regarding Irish solvency risks were exaggerated and the country had some room to manoeuvre due to its relatively low level of government debt. In combination with low interest rates, Irelands' debt-interest burden amounted to only 1% GDP in 2008 and although the debt/GDP ratio will increase in the coming years this should still leave the debt servicing burden in line with the European average.

However, Eamonn did believe that there were some liquidity risks. The Irish bond market is heavily dependent on foreign investors which, in the midst of prevailing 'home bias' for international capital flows, raises the risk. Domestic savings are currently rising and this growing resource pool should be targeted to fund Irish borrowing needs.

## Competitiveness and the Economy

Eamonn advised that past experience suggests that an improvement in competitiveness acts as a trigger towards economic recovery. An improvement in our competitiveness has the potential to boost exports and facilitate the narrowing of the current account deficit.

Devaluation of one's currency is one way to increase competitiveness. In the 6 months prior to the presentation, a devaluation of circa 25% in sterling resulted in an increase in the UK's competitiveness. Given that Ireland has no control over exchange rate policy, competitiveness must be regained by other means, for example increasing output, reducing our base costs relative to our trading partners or promoting pro-industry initiatives. Ireland must strive to promote itself in an effort to once again attract significant international investment.

Substantial reductions in private sector wage costs, combined with the fall in consumer prices will go some way towards improving our competitiveness.

## Banking system

Eamonn then moved on to the banking sector, where he touched upon the €400 billion Government bank guarantee scheme but he mainly

# Irish Economic and Financial Stability.

focussed on the proposed National Asset Management Agency (NAMA). He supported the implementation of NAMA for a number of reasons:

1. Historic experience has shown that bad banks are ideal vehicles to handle distressed property assets.
2. There would be economies of scale in managing workouts and in forming and selling portfolios of assets.
3. Its introduction should help restore the banking system in Ireland.
4. NAMA would allow property and corporate finance specialists to extract the maximum value from property assets while freeing up banks to focus on "good" banking.

Eamonn then discussed some of the disadvantages of setting up a bad bank instead of nationalising the industry:

1. Bad banks require more government capital upfront.
2. Substantial time would be required to make it operational.
3. There would be vast requirements for human capital resources and their availability is uncertain.
4. Cross collateralisation and multi-banking can make decisions on what to transfer and at what price more difficult.

## Conclusion

Following the presentation, Eamonn welcomed questions from the floor giving rise to a lively Q&A session focussing predominantly on NAMA and the government guarantee scheme.
A copy of the presentation is available on the Society of Actuaries website.

Pamela O'Reilly

# Social Welfare and Pensions Act 2009

On 11th June 2009 at the Alexander Hotel there was a joint meeting of the Society of Actuaries and the Association of Pension Lawyers in Ireland (APLI). The topic of the meeting was the Social Welfare and Pensions Act 2009. Philip Shier and Kirstie Flynn jointly presented.

The presentation covered five main topics, Pensions Board Prosecutions, Section 48 of the Pensions Act, Pensions Insolvency Payment Scheme, Section 50/50A of the Pensions Act and Bulk Transfer Regulations.

Both speakers highlighted that the Social Welfare and Pensions Act 2009 (the Act) was drafted in haste and that there were limited opportunities for interested parties to review and comment on it. As a result, there are sections of the Act where there is scope for misinterpretation.

## Pensions Board Prosecutions

Kirstie began by mentioning that the Act amends Section 58A of the Pensions Act, which refers to the remittance of contributions. Contributions must be remitted to the trustees within 21 days of the end of the month in which they were deducted. Payroll data can now be used as evidence where a breach occurs, removing the requirement for an employee to testify against their employer. Section 19 of the Act also introduces protection for the honest trustee.

## Section 48 of the Pensions Act

Philip then detailed the change in priority order on wind-up of a pension scheme contained in Section 48.
The new priority order specified in Section 48 (1A) is that, after expenses, assets must be applied to [I] AVCs, [II] pensions in payment and benefits for those past retirement age, not including post retirement increases, [III] preserved benefits plus post '91 revaluation for active and deferred members, not including post retirement increases,and [IV] the balance of the benefits for pensions in payment, AVCS & transfers in, post '91 preserved benefits plus revaluation and pre '91 preserved benefits. Revaluation of pre '91 benefits must be provided before any surplus can be returned to the employer.

A new Section 48(1B) states that "The liabilities of the scheme in respect of the benefits in [IV] shall rank equally between each other and shall be paid in full unless the resources of the scheme are insufficient to meet those liabilities, in which case they shall abate in equal proportions as between each other". Philip highlighted some issues with the interpretation of this section, including the difficulty in interpreting the meaning of "abate in equal proportions as between each other". He went on to give examples of the differing calculation methods that could apply and detailed practical implementation issues that might arise.

Philip continued by highlighting the impact the changes will have on the minimum funding standard and the actuarial funding certificate. Section 44 has not changed, but reprioritization is intended to apply to actuarial funding certificates. It may enable "less reduced" transfer values to be paid. There may also be an impact for early retirement cases.

## Pensions Insolvency Payment Scheme

The next topic was the planned Pensions Insolvency Payment Scheme (PIPS). Under PIPS, the trustees can pay a sum to the Exchequer to cover the cost of paying the pensions of retired members, instead of buying annuities. PIPS is intended to be cost neutral from an Exchequer point of view. Some of the specific provisions are that no increasing annuities will be provided; administration of pension payments can be outsourced; payments are made directly to or for the benefit of the Exchequer as the Minister directs; pension payments will be from the "Central Fund or the growing produce thereof"; pricing has been delegated to the NTMA; and there will be a review after not more than 3 years.

Philip discussed the eligibility criteria for PIPS. An eligible scheme is one where winding up has commenced, the scheme has insufficient resources

*continued...*

# Social Welfare and Pensions Act 2009 *continued...*

to discharge liabilities on the date of commencement of winding up, the "employer concerned" is insolvent and it has been certified by the Pensions Board as compliant with such requirements as may be made by the Minister. A relevant pensioner is someone who, immediately before the date of commencement of winding up, was either in receipt of a pension or had reached normal pensionable age and was entitled to receive benefits.

PIPS has no real substance as yet and it is unclear when it will be available. It is also unclear what is intended with regard to cost neutrality and pricing – Philip speculated that it might be intended to run on a pay-as-you-go basis. He also pointed out that the proposed eligibility criteria may be challenged, citing SR Technics as an example where the employer concerned was not insolvent. Finally he discussed the logistics of identifying relevant pensioners and wind-up logistics in general.

Before handing back over to Kirstie, Philip pointed out that, even though the Society had recommended both deprioritizing pension increases and introducing the State pension purchase facility to Government, further clarification would be required to make the proposals workable.

## Section 50 & Section 50A

Kirstie then took over to explain Section 50 and Section 50A. Section 50 allows the Pensions Board to direct trustees to cut members' benefits. Deferred benefits and pensioners' increases can now also be cut. Section 50 can apply in four situations, where there is no actuarial funding certificate; where there is an actuarial funding certificate but no funding proposal; where there is a negative actuarial funding certificate and funding proposal and where the Pensions Board consents to a Section 50A amendment.

Section 50A is voluntary and initiated by the trustees whereby they apply to the Pensions Board for consent to the amendments. Member consent is not required although they must be informed and allowed to make observations. There are a range of ways available to reduce benefits. It is for the trustees and not the Pensions Board to decide how benefits might be reduced. Kirstie cautioned that trustees should be wary of going down the Section 50A route and should examine all alternatives first.

## Bulk Transfer Regulations

Kirstie then detailed the new Bulk Transfer Regulations. These apply where member consent for a transfer is not to be obtained. Transferring scheme trustees must give information to members two months before the transfer. Members may make observations up to 1 month before the transfer. The trustees and the employer must consider any observations made before the transfer takes place. If anything changes during this process, then the two month notice period begins again.

The information provided to members must include details of the circumstances giving rise to the transfer; details of the benefit structure of the transferring and receiving schemes, including any "discretionary benefit practices"; details of benefits under the receiving scheme; details of any adverse consequences; an Actuary's statement if it's a defined benefit scheme; and details of the procedure for making observations and their consideration.

The Actuary's statement must include: how transfer values and benefits in the new scheme/contributions to the PRSA are calculated; how discretionary benefit practices are provided for in the calculations; whether the transfer value on the funding standard basis in the receiving scheme/value of contributions to the PRSA will be equal to the transfer value in the transferring scheme; if the receiving scheme wound up immediately after transfer would each member's transfer value be at least equal to the transfer value from the transferring scheme if wound up before; whether the funding level of the receiving scheme is at at least equal to that of the transferring scheme.

## Discussion

Following this informative presentation, the mixed room of actuaries and lawyers provided some interesting perspectives on and questions about the topics discussed.

Roisin Bennett

# Results of the Society of Actuaries in Ireland Insured Life Mortality Study

## Methodology

The Society's 2009 study on insured life mortality has now been completed. Full results including age band results will be placed on the Society's website (www.actuaries.ie) but the overall results are summarised below.

The study covers deaths in 2006 and 2007 under Decreasing Term Assurance (DTA) and Level Term Assurance (LTA) policies with Critical Illness (CI) policies generally excluded. It was split by both gender and smoking status and results were obtained for 5-year age bands. The study examined policies in a select period (0-4 years) and ultimate and all durations combined. Results were obtained on both a lives and a sum assured basis.

In all cases, the tables used as "expected" were the "2000 series" for temporary insurances as prepared on UK data by the CMI[1]. These have separate tables for smoking status.

The study was completed using an "Aggregated Data Method" which is designed to keep the cost of such analyses to an affordable level. It is based on the expectation that participating companies are already compiling their own mortality experiences and the work required to re-run "expected" figures with a specified table is fairly low. Participating companies are asked to do just that and supply actual and expected numbers of deaths and sums assured in confidence to the Society in a prescribed format that involves grouping the results by age bands within gender and smoking status. The Society then calculates the aggregate actual and expected taking all participants together and ratios the two totals for each cell. Only the Society sees the individual results and no company-level analysis is produced as it is believed that individual companies could be identified from the seven participants. It was felt by some actuaries who participated in this that open publication of the aggregate results was an essential part of the process to avoid any possibility of charges of anti-competitive behaviour. No analysis other than this article is undertaken and the full results are public with no extra data given to participants.

As mentioned, this Aggregated Data Method puts the study into the realm of the achievable without great additional cost for participants. The experience of the two previous Society of Actuaries in Ireland Critical Illness Working Party studies has shown that studies done from raw data can be expensive in manpower and take many years to come to fruition.

The disadvantage is that different companies may have different treatments of such factors as age definition, policy duration, run-off of sum assured for DTAs, treatment of medically rated cases and so on. Therefore it is necessary to interpret the results allowing for the fact that the underlying data may include an element of heterogeneity. However, the potential distortion from this source is probably smaller than that caused by statistical fluctuation. Ireland's insured population is not large and when subdivided by type of product, gender, smoking status and duration, it leaves numbers of lives in each cell in the low hundreds, at best.

Therefore caution is needed when drawing conclusions from the results presented below.

## Study Size

The total number of deaths recorded was 2,036, split as follows:

| | 2006 | 2007 |
|---|---|---|
| DTA | 562 | 537 |
| LTA | 452 | 485 |

The breakdown by cell was:-

| | DTA | LTA |
|---|---|---|
| Male Smoker | 264 | 189 |
| Male Non-Smoker | 484 | 438 |
| Female Smoker | 115 | 106 |
| Female Non-Smoker | 236 | 204 |

continued...

[1] TMN00 and TFN00 for male non-smokers and female non-smokers respectively; TMS00 and TFS00 for male smokers and female smokers respectively

# Results of the Society of Actuaries in Ireland

## Results

In all eight classes of results (gender/smoking status/LTA or DTA), the results were less than 100% of the "T 2000" standard table when taken over all durations. The data, being drawn from 2006 and 2007, probably reflects several years of mortality improvement since the year 2000, so it is not possible to say whether the favourable experience implies that Irish experience is better than that in the UK.

The results for all durations were:-

| Lives | DTA | | LTA | |
|---|---|---|---|---|
| | 2006 | 2007 | 2006 | 2007 |
| **Male Smoker** | 73% | 65% | 80% | 66% |
| **Male Non-Smoker** | 74% | 64% | 63% | 76% |
| **Female Smoker** | 60% | 58% | 81% | 76% |
| **Female Non-Smoker** | 70% | 57% | 80% | 54% |

| Amounts | DTA | | LTA | |
|---|---|---|---|---|
| | 2006 | 2007 | 2006 | 2007 |
| **Male Smoker** | 64% | 61% | 62% | 50% |
| **Male Non-Smoker** | 66% | 55% | 64% | 77% |
| **Female Smoker** | 63% | 52% | 50% | 63% |
| **Female Non-Smoker** | 59% | 57% | 65% | 47% |

It is very noticeable that the results are generally heavier for 2006 than 2007. A number of factors may account for this. Firstly, it is now generally accepted that IBNR (Incurred But Not Reported) is a factor in mortality experience. It would not be expected to be as high as for Critical Illness but must exist to an extent. In addition, there are the steady improvements in mortality. Lastly, it is widely accepted that mortality does vary from year to year.

As one would expect, the experience by lives is much heavier than that by amounts.

As the expected table has separate values for different smoking status, comparison by status only shows how the experience differs from the T 2000 tables. Therefore, these percentages do not imply anything about the relative mortality of smokers and non smokers without reference to the base tables.

The results for the durations are as follows:-

A) 0-4 years

| Lives | DTA | | LTA | |
|---|---|---|---|---|
| | 2006 | 2007 | 2006 | 2007 |
| **Male Smoker** | 66% | 56% | 94% | 56% |
| **Male Non-Smoker** | 58% | 52% | 64% | 58% |
| **Female Smoker** | 63% | 54% | 58% | 63% |
| **Female Non-Smoker** | 59% | 49% | 63% | 50% |

| Amounts | DTA | | LTA | |
|---|---|---|---|---|
| | 2006 | 2007 | 2006 | 2007 |
| **Male Smoker** | 64% | 61% | 58% | 43% |
| **Male Non-Smoker** | 66% | 55% | 77% | 48% |
| **Female Smoker** | 63% | 52% | 43% | 64% |
| **Female Non-Smoker** | 59% | 57% | 49% | 44% |

# Insured Life Mortality Study *continued...*

B) 5+ years

| Lives | DTA | | LTA | |
|---|---|---|---|---|
| | 2006 | 2007 | 2006 | 2007 |
| **Male Smoker** | 64% | 61% | 58% | 43% |
| **Male Non-Smoker** | 66% | 55% | 77% | 48% |
| **Female Smoker** | 63% | 52% | 43% | 64% |
| **Female Non-Smoker** | 59% | 57% | 49% | 44% |

| Amounts | DTA | | LTA | |
|---|---|---|---|---|
| | 2006 | 2007 | 2006 | 2007 |
| **Male Smoker** | 79% | 71% | 74% | 74% |
| **Male Non-Smoker** | 87% | 75% | 65% | 89% |
| **Female Smoker** | 57% | 60% | 92% | 82% |
| **Female Non-Smoker** | 79% | 64% | 92% | 57% |

## Concluding Comments

It is hoped that this study can be repeated in future years, as development of results from year to year is informative. Before choosing a mortality assumption, companies will need to look at their own experience, allow for IBNR and consider the cost of reinsurance, but hopefully these results will be of interest

One potential further use is in respect of gender differentials. The insurance industry may only differentiate its premium rates by gender if it has evidence to that effect. It is hoped that this study may be extended to assist in that process.

*Please note that these tables are presented purely for public interest. They have not been subject to the scrutiny necessary were they to be used for commercial decisions and the Aggregated Data Method used means that mistakes made by contributing companies cannot be identified. The Society makes no warranty as to the accuracy of these figures and owes no duty of care to any party in respect of them. This note does not reflect the views of any employer of members of the Society's Life Committee.*

*If you have any questions or comments on this report or the study, please post them to the thread "SAI Insured Life Mortality Study" under "General Discussion – SAI Members" on the Society's online discussion forum – https://forum.actuaries.ie/.*

Tony Jeffery, FSAI
Life Committee

# The Irish Life Tables ILT15

A joint meeting of the Society of Actuaries and the Central Statistics Office took place at lunchtime on 9th June 2009. Sandra Tobin and Kieran Walsh presented on the Irish Life Tables ILT15 while John Armstrong updated the meeting on the CMI Data Collection Scheme.

Sandra covered the background to the Irish Life Tables – published every 5 years after each population census, first calculations were in 1926 although estimates back to 1871 are available, main output is life expectancy by age. She then went on to show how the ILT15 tables were calculated and outlined some of the issues that arose in developing these tables. Sandra explained how the CSO used a quadratic equation for projections after age 72, and that other than that the life table was constructed in the usual way.

ILT15 shows life expectancy at birth is now 76.8 years for males and 81.6 years for females while at age 65 the expectancy is 16.6 years for males and 19.8 years for females. These figures are period life expectancy i.e. based on the qx's in the table, the actual life expectancy for somebody alive at a given age would be greater. A comparison of ILT15 with ILT14 showed that the gender gap is narrowing.

In response to a question about the accuracy in projection of numbers at census, Sandra commented that the totals had been accurate but that some components had been badly out. In particular estimates of emigration and immigration were not very accurate.

Problems with data at rounded ages, e.g. q90 being much higher than q91, were also raised. When asked if work was being done in relation to socio-economic groupings, Sandra confirmed that they were trying to develop this. Although it was pointed out that social class and socio-economic class are different concepts.

John Armstrong then presented on the Society's aim to develop life tables for use by actuaries. Historically UK tables have been used both for the base mortality rate and the rate of improvements. However, the demography committee recently suggested breaking this link and using Irish rates of improvement. However, the question still remains as to whether or not UK base rates should be used. The general view is that it would be better for the Society to develop its own base tables.

The demography committee have proposed that the best way to do this is to work with and use the existing processes and structures of the CMI in the UK. Once they have formalised their briefing document in relation to this they will seek the views of the relevant stakeholders to determine the interest among life offices and pension consultancies.

Tony Jeffery

# Opportunity for Involvement in New Initiatives

The Society has opportunities at the moment for members to become involved in initiatives relating to Solvency II (including Enterprise Risk Management) and New Areas of Work. These initiatives provide opportunities for members to network with other actuaries, discuss current hot topics with their peers, influence actuarial thinking and shape the future role of actuaries in both traditional and new fields.

## Solvency II Committee

This committee will also review the forthcoming CEIOPS consultation papers on the Solvency Capital Requirement and other matters. You might like to join the panel of actuaries assisting the committee with this work, which will give you the opportunity to discuss the issues arising with other actuaries. If so, please contact the Society at info@actuaries.ie.

## Enterprise Risk Management

This committee would be interested in hearing from members – in particular, people who have been practising in the risk management area for some time and people who are likely to be involved in a risk management role within their organisation in the coming years. If you would like to join this committee, and help shape the role of actuaries in risk management in the future, please contact the Society at info@actuaries.ie.

## New Areas of Work

This committee would like to hear from people who are interested in expanding actuaries' sphere of activity, both in traditional fields and in new fields. Taking part will help you to realise your own career potential and will give you a chance to shape the future of the actuarial profession. If you would like to join the committee – or if you do not want to make an ongoing commitment but would like to help with once-off activities (e.g. organising or participating in networking events, discussion sessions on relevant topics, brain-storming sessions etc, or joining a panel of mentors/coaches willing to advise other members on expanding their horizons) – please contact the Society at info@actuaries.ie.

# Golf Update

## Captain's Day

While Mark Twain said that 'Golf is a good walk spoiled', 34 actuaries nevertheless gathered at Edmondstown Golf Club on Thursday 20th August for a walk but also to test their golf skills in the Society's Captain's Prize. The course was in superb condition but the forecast was ominous and dark clouds greeted golfers as they teed off. Thankfully the rain largely stayed off and Mary Butler kept things moving including keeping golfers' morale up over refreshments at the 11th as the front nine proved challenging for most.

Home advantage proved critical as Micheal O'Briain, a member of Edmondstown, pipped four golfers to the top prize shooting an excellent 38 points. Kevin Begley and Gareth Colgan by virtue of their back nine scores were second and third respectively. Dermot O'Hara and Raymond Leonard were unlucky as they also finished on 37 points. Brian Murphy picked up nearest the pin at the tricky 8th hole and Neil Guinan won the longest drive by virtue of an enormous drive at the 18th. Raymond Leonard did not go home empty handed as he had the best front nine score of 21 points and Ciaran Long took the back nine score with 22 points.

Piers Segrave-Daly presented the prizes for the 2009 Matchplay Competition. Colm Fitzgerald was a worthy winner (I was on the receiving end of his fine golf early in the competition) of the 2009 matchplay having defeated Don Browne in the final.

With an excellent meal put on by the club, the conversation and tales of great golf continued well into the evening.

Earlier in the year, the second running of the Society's so called Ryder Cup was played at Castleknock Golf Club on Thursday 20th June, with insurance actuaries looking to demonstrate that their win the previous year against pension actuaries was not a one off. The weather was glorious, the matches played in a very friendly spirit with insurance coming out on top, again, with a 2-1 winning margin.

My final act as Capitan of the Golf Society will be to lead the Society into battle against the Faculty in October on their home turf intent on retaining the trophy. The Society will be represented by Kevin Begley, Don Browne, Frank Downey, Peter Doyle, Colm Fitzgerald, Jonathan Goold, Neil Guinan, Steven Hardy, David Kingston and myself.

Finally, I must say I enjoyed my year as Captain of the Golf Society and my thanks to all those who participated in making the golf year successful. In particular Mary and Catherine in the Society's offices who ensured everything ran to plan. I would like to give my best wishes to next year's Captain, Peter Doyle.

Brian Morrissey, Golf Captain 2009

*Piers Segrave Daly presenting Colm Fitzgerald with the Matchplay Trophy for 2009*

*Brian Morrissey, Captain, presenting Micheal O'Briain with the Captain's Prize.*

*Brian Morrissey presenting Gareth Colgan with 3rd Prize*

*Neil Guinan had the longest drive at Captain's Day*

## Calendar of Events for November and December 2009

| Date | Event | Venue & Time | Title of Event | Speakers/ Presenters |
|---|---|---|---|---|
| Tuesday, 3rd November 2009 | Life Forum | Alexander Hotel 3.30pm - Tea/Coffee 4pm - Forum (finishing at 6pm) | Update on Life Issues | Members of the Life Committee |
| Thursday, 5th November 2009 | Evening Meeting (*Please note time of this meeting) | Alexander Hotel 4.30pm - Tea / Coffee 5pm - Meeting | Solvency II: Technical Provisions | Brian Morrissey and Dick Tulloch |
| Tuesday, 10th November 2009 | Pensions Forum | Alexander Hotel 3.30pm - Tea/Coffee 4pm - Forum (Finishing at 6pm) | Update on Pensions Issues | Members of the Pensions Committee |
| Wednesday, 11th November 2009 | Evening Meeting (Please note the venue) | Westbury Hotel, Grafton Street, Dublin 2 6.00 p.m. tea/coffee 6.30 p.m. Meeting | Actuarial Economic Forecasting | Colm Fitzgerald |
| Tuesday, 17th November 2009 | Evening Meeting | Alexander Hotel 6pm - Tea/Coffee 6.30pm - Meeting | Pension Risk | Ian Sykes and Members of the Pensions ERM Working Party |
| Wednesday, 18th November 2009 | Evening Meeting (*Please note time of this meeting) | Alexander Hotel 4.30pm - Tea / Coffee 5pm - Meeting | Solvency II: Solvency Capital Requirement | John McCrossan & Dervla Tomlin |
| Monday, 23rd November 2009 | Evening Meeting (*Please note time of this meeting) | Alexander Hotel 4.30pm - Tea / Coffee 5pm - Meeting | Solvency II: Governance and Actuarial Function | Jim Murphy |
| Friday, 27th November 2009 | General Insurance Forum | The Gresham Hotel 10.30am - 12.30pm | Update on General Insurance Issues | Members of the General Insurance Committee |
| Tuesday, 1st December 2009 | Christmas Quiz | Dicey Reilly's, Russell Court Hotel, Harcourt St, Dublin 2 Christmas Drinks 6-7pm Table Quiz - 7pm sharp | SAI Christmas Drinks and Charity Table Quiz | Hosted by the President Kevin Murphy. Quizmaster - Kevin Manning |

Details of all events together with an online reservation facility are available at:
www.actuaries.ie/Events & Papers/ Upcoming Events

# On the Move

**Anthony Collins** has moved from ESG Re to **Euro Insurances Ltd**

**Society of Actuaries in Ireland**
102 Pembroke Road, Dublin 4. Telephone: +353 1 660 3064 Fax: +353 1 660 3074 E-mail: info@actuaries.ie Web site: www.actuaries.ie